

What is claimed is:

1. A method for determining the state of charge of at least one battery installed in a battery-powered device without removing said at least one battery from said device, or otherwise altering the device, the method comprising the steps of:
  - a. electrically insulating the terminals of said at least one battery from contact areas of the battery-powered device with an electrically insulating material,
  - b. bringing a positive battery terminal into contact with a first conductor and a negative battery terminal into contact with a second conductor, said first and second conductors extending from said at least one battery,
  - c. determining the state of charge of said at least one battery by attaching a measuring device to said first and second conductors, and
  - d. deciding whether the state of charge is acceptable or unacceptable, based on predetermined criteria.
2. The method of Claim 1, wherein the device is enclosed by a package and said first and second conductors are extended to the outside of the package, allowing the state of charge of said at least one battery to be determined without opening the package.
3. The method of Claim 1, further comprising the steps of:
  - e. replacing or recharging said at least one battery if the state of charge, as determined by the method of Claim 1, is unacceptable, and

- f. repeating steps a through d.
4. The method of Claim 1, further comprising the step of removing the insulating material if the state of charge is determined to be acceptable, bringing said terminals of said at least one battery into electrical contact with the contact areas of the battery-powered device.
  5. The method of Claim 4, wherein the insulating material is flexible, and has a slippery quality allowing it to be easily removed from the device and battery by sliding, and has sufficient mechanical integrity so as not to be punctured, torn, or otherwise penetrated by the battery terminals or contact areas.
  6. The method of Claim 5, wherein the insulating material is bonded spun polymeric material, polymeric paper, pressboard, nonwoven material, film, or paper coated with a wax or a resin.
  7. The method of Claim 1, wherein the measuring device is a voltmeter or other voltage-measuring device.
  8. The method of Claim 7, wherein the voltmeter is of sufficiently high impedance to give an accurate reading of the open circuit voltages of said at least one battery.
  9. The method of Claim 1, wherein the measuring device indicates whether the state of charge is acceptable or unacceptable.

10. The method of Claim 1, wherein said first and second conductors and said insulating material form a single, integrated unit.
11. The method of Claim 10, wherein the first and second conductors are sandwiched between a top layer and a bottom layer of insulating material and a portion of said top layer near the battery terminals is removed, allowing electrical contact between the conductors and the battery terminals.
12. The method of Claim 10, wherein the first and second conductors are applied to the insulating material by painting, spraying, printing, or silk-screen printing.
13. The method of Claim 1, wherein said first and second conductors are formed using carbon ink, thin carbon films, or conductive epoxy.
14. The method of Claim 1 wherein said first and second conductors are marked to show a user where the contacts of the measuring device should be placed.
15. The method of Claim 1, wherein the resistance of said first and second conductors is high enough to prevent damage to said at least one battery by limiting the current in the event that the conductors are bridged.
16. The method of Claim 1, wherein at least one of said first and second conductors is in series with a resistance high enough to prevent damage to said at least one battery by limiting the current in the event the conductors are bridged.

17. The method of Claim 1, wherein at least one of said first and second conductors is in series with a fuse, said fuse designed to open in the event the conductors are bridged, protecting said at least one battery.
18. The method of Claim 1, wherein the measuring device is an ammeter or other current-measuring device.
19. The method of Claim 1, wherein the measuring device is a thermochromic, electrochromic, or electrophoretic device; electrochemical cell, or electrolytic cell.
20. The method of Claim 1, wherein the battery-operated device is an asset-tracking device comprising a satellite transceiver.
21. The method of Claim 1, wherein the battery-operated device is a locating device comprising a satellite transceiver and a Global Positioning System receiver.
22. The method of Claim 1, wherein said at least one battery is charged from an external source.
23. An assembly, comprising at least one battery and a battery-powered device, which allows the state of charge of said at least one battery to be determined without removing said at least one battery or otherwise altering the assembly, the assembly further comprising a first electrical conductor in electrical contact with a positive terminal of said at least one battery, and a second electrical conductor in electrical contact with a negative terminal of said at least one battery, said first and second conductors extending from the assembly and allowing a measuring device to be

placed in electrical contact with said conductors, the reading of said measuring device determining the state of charge of said at least one battery.

24. The assembly of Claim 23, wherein the device is enclosed by a package and said first and second conductors are extended to the outside of the package, allowing the state of charge of said at least one battery to be determined without opening the package.

25. The assembly of Claim 23, further comprising insulating material, which electrically isolates the terminals of said at least one battery from the contact areas of the device, said insulating material being removable once the assembly is installed in its place of operation, providing electrical contact between said terminals and the battery-powered device.

26. The assembly of Claim 25, wherein the insulating material is flexible, and has a slippery quality allowing it to be easily removed from the device and battery by sliding, and has sufficient mechanical integrity so as not to be punctured, torn, or otherwise penetrated by the battery terminals or contact areas.

27. The assembly of Claim 26, wherein the insulating material is bonded spun polymeric material, polymeric paper, pressboard, nonwoven material, film, or paper coated with a wax or a resin.

28. The assembly of Claim 25, wherein said first and second conductors are formed using carbon ink, thin carbon films, or conductive epoxy.

29. The assembly of Claim 25, wherein said first and second conductors and the insulating material form a single, integrated unit.
30. The assembly of Claim 29, wherein the first and second conductors are applied to the insulating material by painting, spraying, printing, or silk-screen printing.
31. The assembly of Claim 29, wherein the first and second conductors are sandwiched between a top layer and a bottom layer of insulating material and a portion of said top layer near the battery terminals is removed, allowing electrical contact between the conductors and the battery terminals.
32. The assembly of Claim 23, wherein said first and second conductors are marked to show a user where the contacts of the measuring device should be placed.
33. The assembly of Claim 23, wherein the resistance of said first and second conductors is high enough to prevent damage to said at least one battery by limiting the current in the event that the conductors are bridged.
34. The assembly of Claim 23, wherein at least one of said first and second conductors is in series with a resistance high enough to prevent damage to said at least one battery by limiting the current in the event the conductors are bridged.
35. The assembly of Claim 23, wherein at least one of said first and second conductors is in series with a fuse, said fuse designed to open in the event the conductors are bridged, protecting said at least one battery.

36. The assembly of Claim 23, wherein the battery-operated device is an asset-tracking device comprising a satellite transceiver.
37. The assembly of Claim 23, wherein the battery-operated device is a locating device comprising a satellite transceiver and a Global Positioning System receiver.
38. The assembly of Claim 23, wherein said at least one battery is charged from an external source.
39. The assembly of Claim 38, wherein said at least one battery is charged from the engine of a motor vehicle, the entire assembly being attached to a trailer which is attachable to and detachable from said motor vehicle.
40. A unit for determining and communicating the location of a mobile trailer, said unit making use of the Global Positioning System (GPS) and designed to be mounted on said trailer, said unit comprising:
- a. a GPS receiver,
  - b. a communications satellite transceiver, and
  - c. a battery assembly which supplies electrical power to the transceiver,
- wherein the state of charge of a battery in the assembly can be determined prior to the activation of the unit without removing said battery or otherwise altering the unit, the battery assembly comprising:
- (i) a battery, having a positive battery terminal and a negative battery terminal,

(ii) a first metallic contact area in proximity to the positive battery terminal and a second metallic contact area in proximity to the negative battery terminal,

(iii) a first wire with its proximal end connected to said first metallic contact area and its distal end connected to a first terminal of the transceiver; and a second wire having its proximal end connected to said second metallic contact area and its distal end connected to a second terminal of the transceiver,

(iv) a ribbon, having its proximal end disposed between said metallic contact areas and said battery terminals and extending to a distal end, said ribbon comprising a first stripe and a second stripe, said stripes being parallel to one another and comprised of electrically conducting material, said stripes sandwiched between a top layer and a bottom layer of electrically insulating material, wherein said top layer has been removed over a short distance at said proximal end, exposing said conducting stripes and allowing said positive battery terminal to come into electrical contact with said first conducting stripe at said proximal end, and said negative battery terminal to come into electrical contact with said second conducting stripe at said proximal end, and

(v) a first target situated over said first conducting stripe at said distal end and a second target situated over said second conducting stripe at said distal end, said first and second targets indicating where the probes of a measuring device are to be placed, said measuring device indicating the state of charge of the battery.



41. The unit of Claim 40 wherein said top layer has been removed over a short distance at said distal end, exposing said first and second conducting stripes and allowing probes of said measuring device to come into electrical contact with said first and second conducting stripes at said distal end.
42. A battery assembly comprising: a battery, a first electrical conductor in electrical contact with a positive terminal of said battery, and a second electrical conductor in electrical contact with a negative terminal of said battery, said first and second conductors extending away from said battery, such that a measuring device may be placed in electrical contact with said conductors, the reading of said measuring device determining the state of charge of said battery, said first conductor and second conductor being of sufficient length such that when said battery is contained in an enclosure such that direct contact with the terminals of said battery is not possible, said first conductor and second conductor extend to the outside of said enclosure, allowing the state of charge of said battery to be determined.
43. The battery assembly of Claim 42, said assembly further comprising electrically insulating material in proximity to the terminals of said battery, said insulating material being removable when said battery is installed in a battery-powered device, providing electrical contact between said terminals and contact areas of said battery-powered device.
44. The battery assembly of Claim 43, wherein the insulating material is flexible, and has a slippery quality allowing it to be easily removed from the battery by sliding, and

has sufficient mechanical integrity so as not to be punctured, torn, or otherwise penetrated by the battery terminals or contact areas.

45. The battery assembly of Claim 44, wherein the insulating material is bonded spun polymeric material, polymeric paper, pressboard, nonwoven material, film, or paper coated with a wax or a resin.
46. The battery assembly of Claim 43, wherein said first and second conductors and said insulating material form a single, integrated unit.
47. The battery assembly of Claim 46, wherein said first and second conductors are formed using carbon ink, thin carbon films, or conductive epoxy.
48. The battery assembly of Claim 46, wherein the first and second conductors are applied to the insulating material by painting, spraying, printing or silk-screen printing.
49. The battery assembly of Claim 46, wherein the first and second conductors are sandwiched between a top layer and a bottom layer of insulating material and a portion of said top layer near the battery terminals is removed, allowing electrical contact between the conductors and the battery terminals.
50. The battery assembly of Claim 42, wherein said first and second conductors are marked to show a user where the contacts of the measuring device should be placed.

51. The battery assembly of Claim 42, wherein the resistance of said first and second conductors is high enough to prevent damage to said battery by limiting the current in the event that the conductors are bridged.
  
52. The battery assembly of Claim 42, wherein at least one of said first and second conductors is in series with a resistance high enough to prevent damage to said battery by limiting the current in the event the conductors are bridged.
  
53. The battery assembly of Claim 42, wherein at least one of said first and second conductors is in series with a fuse, said fuse designed to open in the event the conductors are bridged, protecting said battery.
  
54. The battery assembly of Claim 42, wherein said enclosure is a package, with the conductors extending to the outside of said package.